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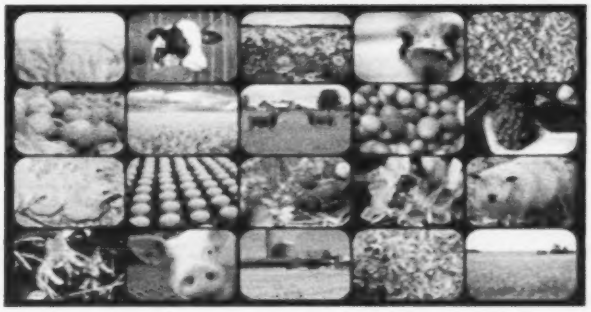
A portrait of a 21st century agricultural operation



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. not available for any reference period
.. not available for a specific reference period
... not applicable
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0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

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A portrait of a 21st century agricultural operation

While the modern farm operator may still live at their agricultural operation, farming has evolved into an innovative career choice requiring knowledge of business management and technology, as well as the agricultural sciences.

Driven by competition and aided by technology, the number of Canadian agricultural operations is decreasing and the agricultural operations that remain are larger and more capital intensive.

The 2016 Census of Agriculture recorded 193,492 agricultural operations, down 5.9% from 2011, and 271,935 farm operators, a decline of 7.5%.

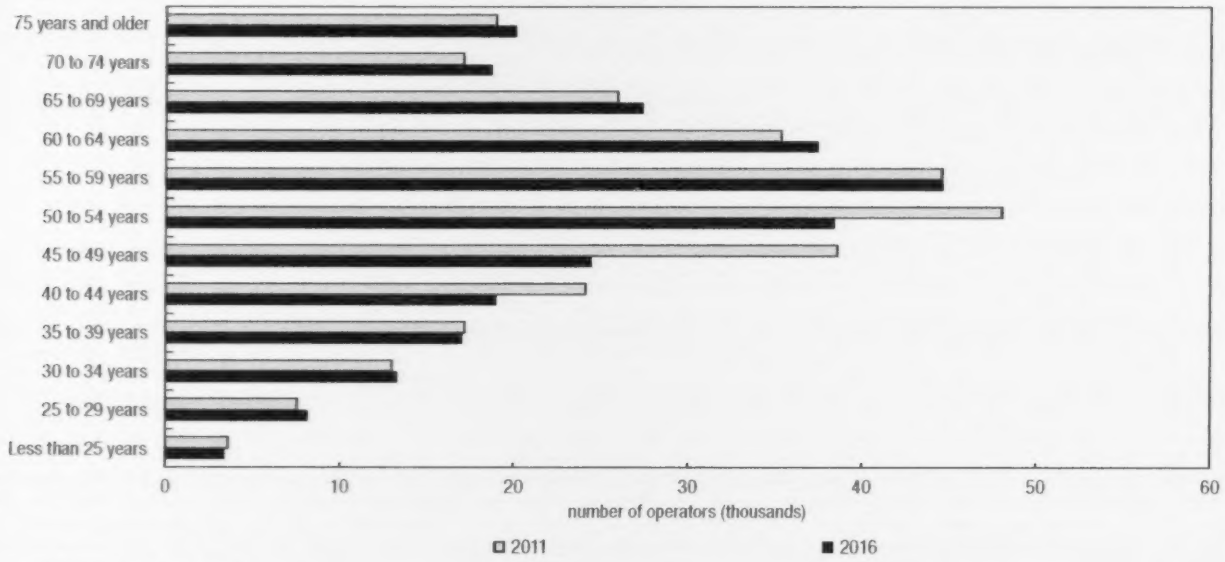
While there are fewer agricultural operations and farm operators, agricultural operations are getting larger and using more of Canada's available agricultural land to grow crops. The area of cropland increased by 6.9% from 2011 to 93.4 million acres in 2016.

Canadian farm operators today

Canadian farmers are getting older, despite more farmers under the age of 35

The average age of a Canadian farmer increased from 54.0 to 55.0 years from 2011 to 2016, with farmers aged 55 to 59 (Chart 1) accounting for the largest share of farm operators. However, the number of operators under the age of 35 increased by 3.0% from 2011 to 2016, despite the total number of operators decreasing. This is the first time that there has been an increase in this age category since 1991.

Chart 1
Total number of operators by age group, Canada, 2011 and 2016



Source: Census of Agriculture (3438).

Young farmers more likely to rent land

In 2016 the average value of land and buildings was $2,696 per acre, which is an increase of 38.8% from 2011 (in 2016 constant dollars). This cost is ever increasing, and can be a barrier to starting or expanding an agricultural operation. The majority of farmland was owned in 2016, but it is a smaller proportion of total farmland than it was in 2006 (Chart 2).

Over time, farmers have increased their farm size through the use of land that they do not own. This includes renting land, crop sharing and leasing land from governments. Starting or growing an agricultural operation requires a significant investment, and choosing to rent land can be a more flexible and less capital-intensive way for farmers to establish their operations.

The total area rented from others was 40.1 million acres in 2016, including land rented from other farm operators or from non-operating landlords. Of agricultural operations where all operators were under the age of 35, 50.6% rented land from others, compared with 35.1% of all agricultural operations. On agricultural operations that used only rented land, the average operator age was 46.0 years, 9 years younger than the national average.

Another way farmers acquire land is through crop-sharing, which totalled 4.5 million acres in 2016. This practice involves both the landowner and the farmer sharing in the risk and the rewards from the crop harvested from the land.

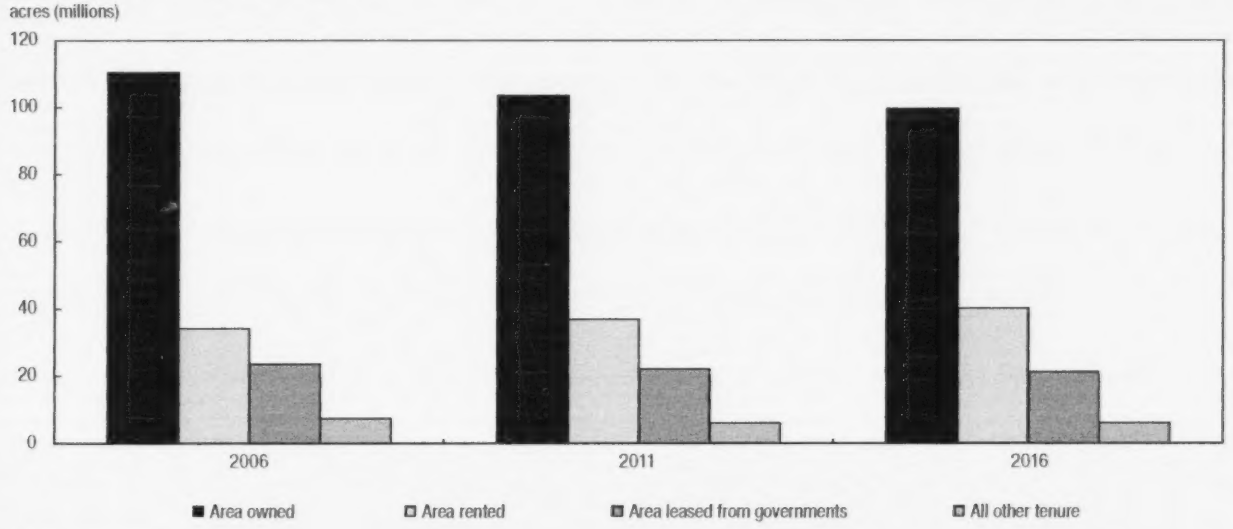
Some farmers opt to lease land from the government. Crown land is often used to pasture animals. In some provinces such as British Columbia and Alberta, Crown land can be paid for based on the number of animals a farmer or rancher intends to pasture instead of paying for a specific number of acres. Land leased from governments totalled 21.2 million acres in 2016.

Older farmers profit from assets accumulated over their careers

The total area of land rented to others in Canada increased by 0.4% from 2011 to 8.2 million acres in 2016. Agricultural operations operated by those aged 70 and older were more likely to rent out some of their farmland than younger operators.

On agricultural operations where all of the operators were 70 years of age or older, 23.2% were renting some land to others. Older farmers may rent out farmland to supplement their income or scale back production while transitioning to retirement.

Chart 2
Land tenure, Canada, 2006 to 2016



Source: Census of Agriculture (3438).

The proportion of female farm operators continues to increase

There were 271,935 farm operators in 2016 and almost three-quarters of them were male (71.3%). However, the proportion of female farm operators increased from 27.4% in 2011 to 28.7% in 2016, continuing the long-term trend since 1991 when they accounted for 25.7% of farm operators.

From 2011 to 2016, the proportion of agricultural operations with only male operators decreased from 61.4% to 60.1%, while the proportion of agricultural operations with only female operators increased from 5.6% to 7.2%. This is a shift from 1991 when 64.7% of operations had only male operators and 3.9% of operations had only female operators. In 2016, 32.7% of agricultural operations had at least one male and one female operator, up from 31.4% in 1991.

Agricultural operations with operators spanning more than one age group were the most likely to have at least one male and one female operator (67.5%), compared with less than a quarter (23.5%) of agricultural operations where all operators were under 35 years old (Table 1).

Table 1
Total number of agricultural operations and proportion by age and sex of operators, Canada, 2016

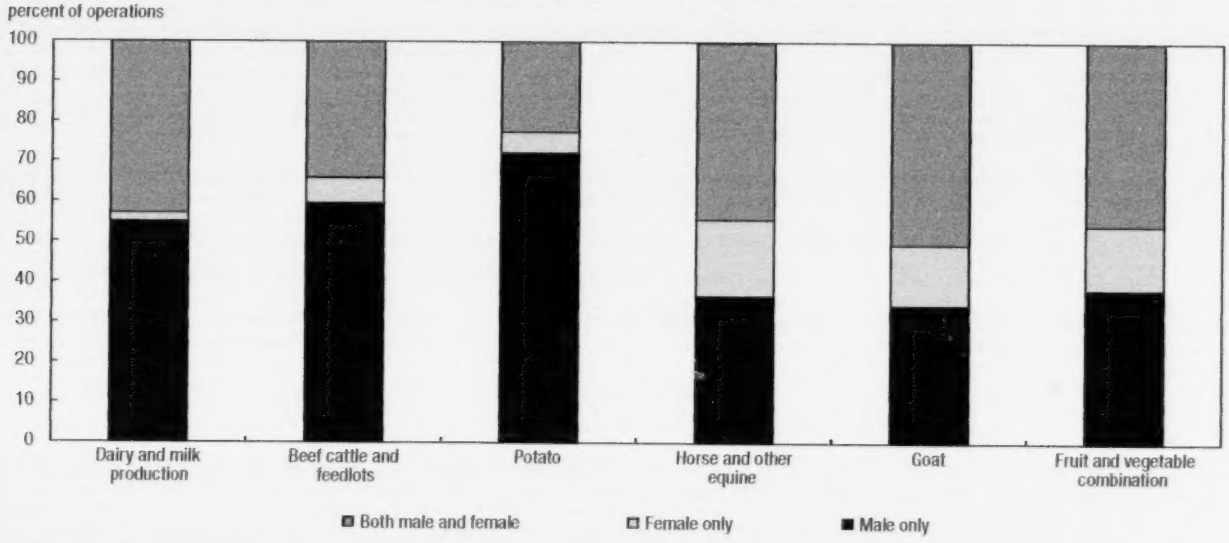
	Male only		Female only		Both male and female	
Age group	Number of agricultural operations	Percent of agricultural operations in age group[1]	Number of agricultural operations	Percent of agricultural operations in age group[1]	Number of agricultural operations	Percent of agricultural operations in age group[1]
All under 35	8,734	68.3	1,045	8.2	3,001	23.5
All between 35 and 54	37,562	62.8	4,442	7.4	17,816	29.8
All between 55 and 69	43,765	64.6	5,432	8.0	18,499	27.3
All 70 or older	17,217	71.1	2,634	10.9	4,374	18.1
Mixed ages	8,979	31.0	450	1.6	19,542	67.5

1. Totals may not equal 100% due to rounding.
Source: Census of Agriculture (3438).

Although the under 35 age category is still dominated by male operators, the number of agricultural operations with only female operators under the age of 35 is growing at a faster rate than those with only male operators under the age of 35. The number of operations with only male operators under the age of 35 increased by 24.4% from 2011 to 8,734 in 2016, while the number of operations with only female operators under the age of 35 rose by 113.3% to 1,045. This data shows that both males and females are taking over agricultural operations from their retiring counterparts.

Agricultural operations operated exclusively by male or female operators differed in the type of commodities produced (Chart 3). Potato type farms were the most likely to have only male operators (72.2%), while horse and other equine farms were the most likely to have only female operators (19.1%). The farm type with the highest proportion of agricultural operations with at least one male and one female operator was goat farming (50.5%).

Chart 3
Proportion of agricultural operations by selected operation type and sex category, Canada, 2016



Note: Totals may not equal 100% due to rounding.
Source: Census of Agriculture (3438).

The work profile of farm operators

The diversity in farm types and sizes allows operators a range of options when it comes to working on and off the farm. Innovations in technology have allowed farmers to grow their operations without a comparable increase in hours worked on the farm. Both average farm size and gross farm receipts increased between the censuses.

In 2010, 40.1% of operators worked more than 40 hours per week on the farm, while 31.5% worked less than 20 hours per week. By comparison, in 2015, 37.5% of operators worked more than 40 hours and 32.7% worked less than 20 hours per week on the farm. This varied by age group in 2015, when 41.1% of operators under the age of 35 worked more than 40 hours per week, compared with 28.3% of operators aged 70 or older.

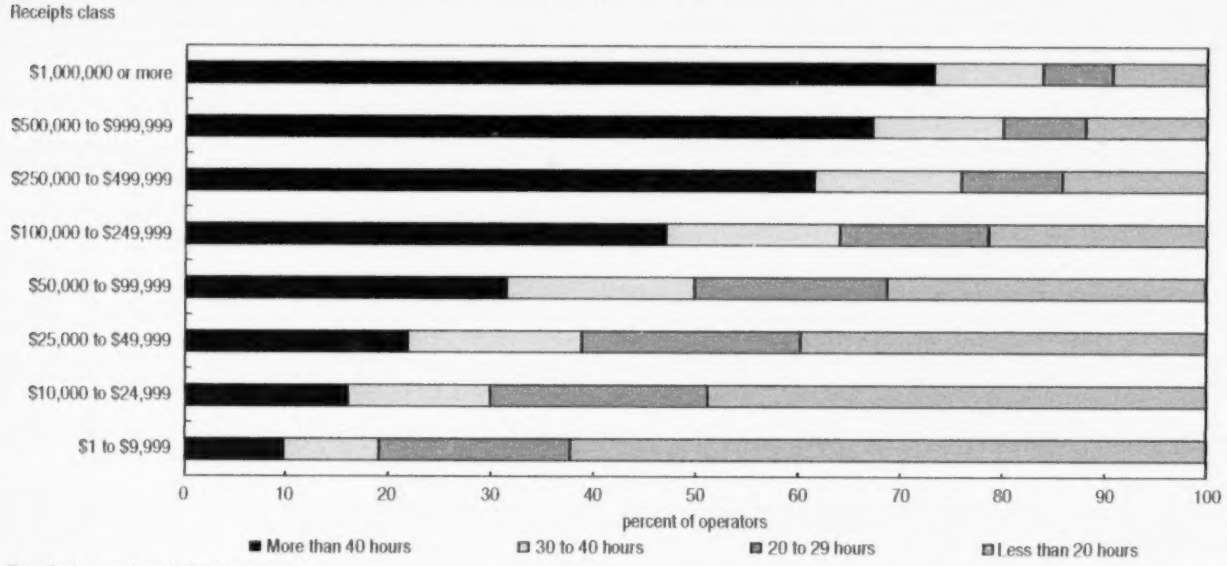
Not only did the number of operators working more than 40 hours on the farm decrease, but the share of operators working off the farm decreased from 46.9% to 44.4%. This also varied by age group in 2015, when 58.2% of operators under the age of 35 worked off the farm, compared with 14.6% of operators aged 70 or older.

Hours worked related to gross farm receipts

The number of hours operators worked on the farm was also related to gross farm receipts (Chart 4). On agricultural operations reporting $1 million or more in gross farm receipts in 2015, 73.2% of operators worked more than 40 hours per week on the farm, and 19.1% of operators worked off the farm.

On agricultural operations reporting less than $10,000 in receipts in 2015, 9.8% of operators worked more than 40 hours per week on the farm, while 60.7% worked off the farm. Some farm operators have an agricultural operation as well as a full- or part-time job, or farm on a part-time or seasonal basis.

Chart 4
Hours worked per week on an agricultural operation by receipts class, Canada, 2015



Note: Totals may not equal 100% due to rounding.
Source: Census of Agriculture (3438).

The number of hours worked on and off a farm varies by farm type

The two farm types with the greatest difference in hours worked were dairy and milk, and maple syrup and products.

Dairy cattle require daily care year round and there are also usually seasonal cropping activities on these agricultural operations. On dairy and milk type farms, 76.5% of operators worked more than 40 hours per week on the farm, while 9.9% worked less than 20 hours per week. With more hours devoted to work on the farm, these operators are also less likely to work off the farm (15.0%).

Conversely, maple has a short but intensive production season. On maple syrup and products type farms, 15.9% of operators reported working more than 40 hours per week on the farm, and 56.0% worked less than 20 hours per week. These operators are also more likely to work off the farm (52.8%).

Fewer agricultural employees, but more of them working year-round

Farm operators have a variety of options when it comes to getting work done on the agricultural operation. In addition to performing the labour themselves, they can hire contractors, take on employees, or invest in automation to replace some farm labour.

In 2015, the total number of agricultural employees was down 5.8% compared with 2010. There has been a shift towards hiring year-round employees (full time and part time) in place of seasonal and temporary employees.

Operators in supply managed sectors worked longer hours on their agricultural operations and hired more employees than other sectors. While agricultural operations in supply managed industries represented 7.9% of all agricultural operations in 2016, these operations employed 14.3% of all agricultural employees reported in 2015.

Agricultural operations with high gross farm receipts accounted for a smaller proportion of agricultural operations but employed a larger share of employees. Almost half (46.8%) of all employees were employed by agricultural operations with receipts of $1 million or more in 2015, while these agricultural operations represented 7.6% of total agricultural operations.

Canadian agricultural operations and production

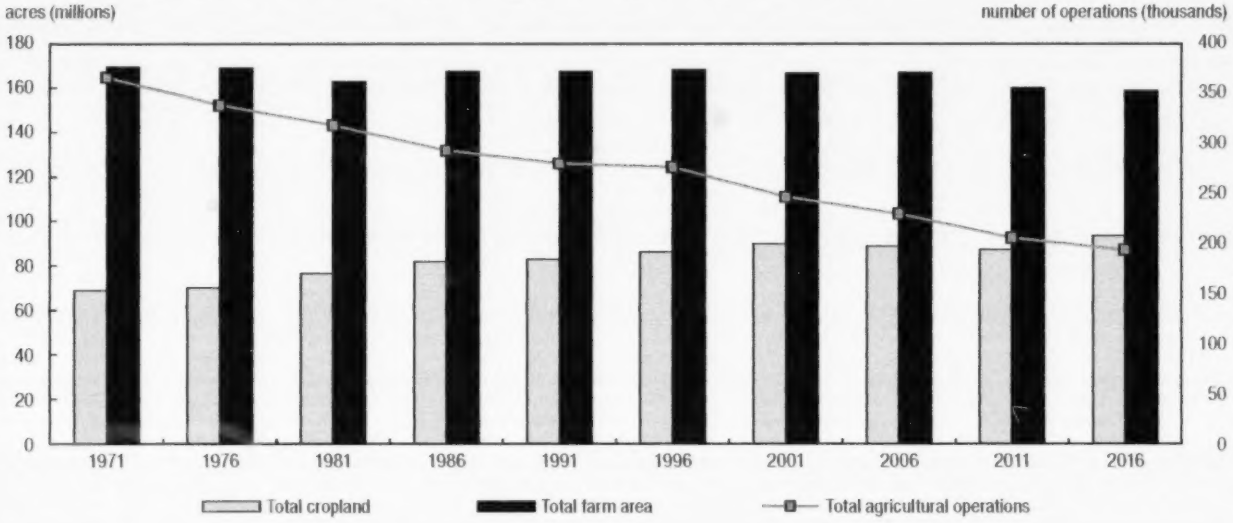
Total farm area down, but total area of cropland at record high

There were 193,492 agricultural operations covering 158.7 million acres in 2016, with an average farm size of 820 acres. In 1971, there were 366,110 agricultural operations covering 169.7 million acres, with an average farm size of 463 acres. From 1971 to 2016, the number of agricultural operations in Canada decreased by 47.1% and the total farm area decreased by 6.4% (Chart 5).

Despite the decrease in total farm area, the total area of cropland increased from 68.8 million acres in 1971 to 93.4 million acres in 2016. This was the largest area of cropland on record for the Census of Agriculture.

The average number of acres of cropland per agricultural operation increased from 425 in 2011 to 483 in 2016. Cropland accounted for 58.8% of total farm area in 2016. The total area used for pasture (natural or seeded) declined by 4.4% as farmers switched from livestock production to crops.

Chart 5
Total farm area, cropland and number of agricultural operations, Canada, 1971 to 2016



Sources: CANSIM tables 004-0002, 004-0203 and 004-0204.

Technology and agricultural practices to optimize land use

The increase in cropland was partially driven by a decrease in the use of summerfallow in favour of crop production. Summerfallow is the practice of leaving land idle in order to conserve soil moisture and nutrients and control weeds.

With innovations in plant genetics, fertilizer, seeding technology and changes to the mix of crops cultivated, the need for summerfallow as a practice has decreased, with the area down by 57.1% since 2011.

Another important factor is that expenses are incurred on summerfallow land without resulting revenue. It is more profitable for farmers to find alternative solutions that allow them to grow crops on their land every year.

Increased use of no-till seeding technology has been a major contributing factor to reduced summerfallow area. No-till seeding allows the retention of stubble from the previous crop to trap winter snow, improve soil structure and reduce moisture loss during seeding. From 2011 to 2016, the total area of land seeded using no-till technology increased by 16.8% to 48.2 million acres.

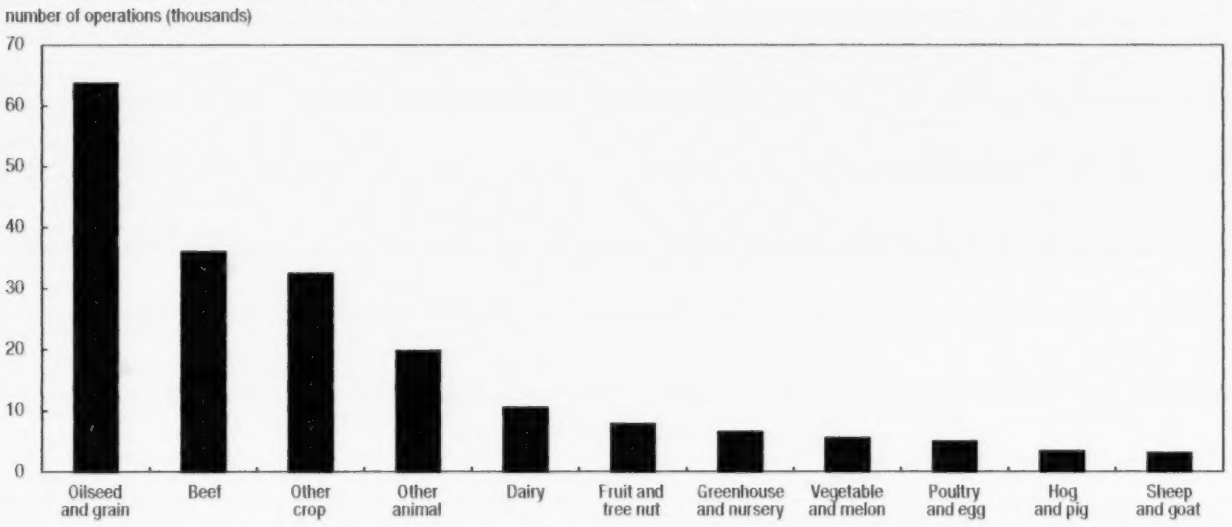
Trends seen in Census of Agriculture data reflect changes in agricultural practices, but can also reflect the impact of weather. In 2011, there was significant flooding across Manitoba and Saskatchewan at the time the Census of Agriculture was collected. Some of the increases in cropland from 2011 to 2016 in these areas reflect a return to productive cropping.

Portrait of the agricultural sectors

Oilseed and grain type farms account for the highest proportion of Canadian agricultural operations, in part due to the amount of arable land available on the Prairies (Chart 6). In 2016, the number of oilseed and grain type operations increased from 61,692 to 63,628, accounting for 32.9% of all agricultural operations in Canada. This was up from 2011 when they accounted for 30.0% of all agricultural operations.

Beef and feedlot type operations rank second (18.6%) with 36,013 agricultural operations—despite a 3.7% decline from 2011.

Chart 6
Total number of agricultural operations by operation type, Canada, 2016



Source: CANSIM table 004-0200.

Sheep and goat type farms showed the greatest percent change from 2011 to 2016, decreasing by 22.1%. This was due in part to their low profitability. In 2010, for every dollar in gross farm receipts on a sheep and goat type farm, $1.01 was reported in expenses on average; an expense-to-receipt ratio of 1.01. While this ratio improved to 0.96 in 2015, this represents the lowest profit margin of any farm type in Canada. By contrast, for every dollar in gross farm receipts on a dairy and milk type operation in 2015, $0.77 was incurred in expenses on average.

The business of farming

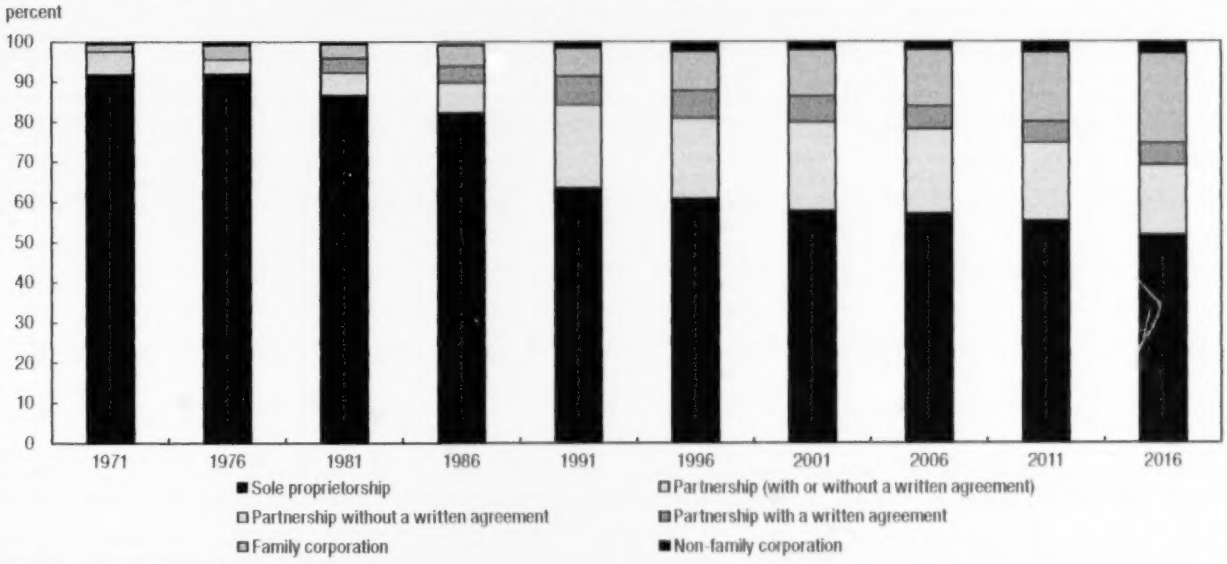
In the past, the image of the average Canadian agricultural operation was a small, family run operation that may have produced one or more commodities. Over time, this image has evolved. Most agricultural operations are still individual or family agricultural operations, but the number of corporate agricultural operations continues to grow.

The structure of agricultural operations as businesses

The operating arrangements of agricultural operations has evolved over the years. In 1971, 97.6% of agricultural operations were reported as sole proprietorships or partnerships. By contrast, corporations (family or non-family) represented 2.2% of agricultural operations. By 2016, sole proprietorships and partnerships (with or without a written agreement) accounted for 74.6% of all agricultural operations, while the percent of agricultural operations that were incorporated increased to 25.1%.

Farm operators have been moving away from sole proprietorships and partnerships in favour of corporations, which for some, offer business and legal advantages particularly as the size and complexity of operations increases (Chart 7). Many of these agricultural operations are still operated by families, with 22.5% of agricultural operations reporting as family corporations compared with 2.7% reporting as non-family corporations in 2016.

Chart 7
Proportion of agricultural operations by organization type (excluding institutions), Canada, 1971 to 2016



Note: Totals may not equal 100% due to rounding.
Source: Census of Agriculture (3438).

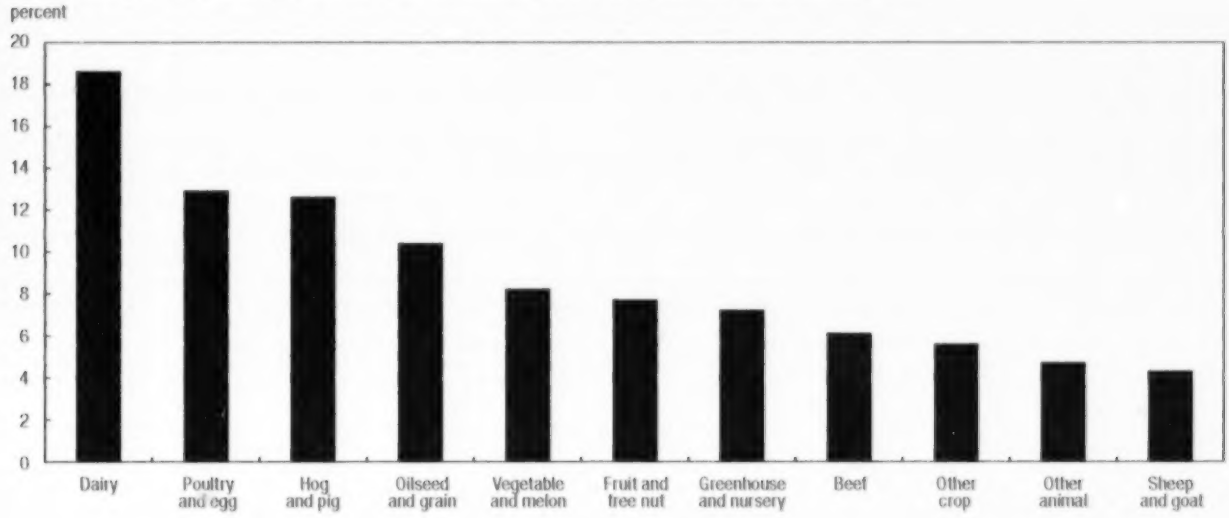
Passing on the agricultural operation

In 2016, a new module was added to the Census of Agriculture regarding written succession plans. Results indicate that 8.4% of all agricultural operations had a written succession plan. This varied by organization type, with 5.7% of sole proprietorship and partnerships having a written succession plan, compared with 16.3% of family and non-family corporations.

> A succession plan is a written plan made by the main farm operators to transfer ownership, labour, and control of the operation to another person.

Agricultural operations in supply-managed farm types had a higher rate of succession planning than other farm types (Chart 8). Dairy and milk type operations were the most likely to have a succession plan (18.6%), followed by poultry and egg production type (12.9%). Supply managed farm types tend to be capital intensive because of the value of production quota and the infrastructure required. This contributes to a higher rate of succession planning than in other farm types.

Chart 8
Proportion of agricultural operations with a succession plan by operation type, Canada, 2016



Source: Census of Agriculture (3438).